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AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. *(Currently Amended)* A method for regulating the exposure time of a light sensor, said method comprising the steps of:

a) setting the exposure time of the sensor to a value selected in a first range of values defined between a minimum value and a maximum value and comprising M prefixed values;

b) acquiring an image of an object onto the sensor, said image comprising a plurality of pixels;

c) analyzing the acquired image for the level of luminosity of said image;

d) comparing the level of luminosity with a previously fixed higher global threshold level representative of a condition of overexposure of the image;

e) performing a certain number of iterations wherein in each iteration ~~varying~~ the exposure time of the sensor is varied and ~~iteratively repeating~~ the previous steps are repeated until an optimum exposure time ~~equal to a higher exposure time~~ is found, said optimum exposure time being the highest among the ones set, for which the image presents a level of luminosity smaller than the global threshold level.

2. *(Previously Presented)* The method according to claim 1, wherein step d) of comparison between the detected level of luminosity and the global threshold level comprises the following steps:

d1) verifying if the level of luminosity of the acquired image is greater than the global threshold level, and:

d11) if such verification has a positive result, decreasing the exposure time of the sensor and iteratively repeating the previous steps starting from b) until an optimum exposure time is found when, alternatively:

d11a) the value of the exposure time set is the minimum of the range of prefixed values;

d11b) the value of the set exposure time is such that the image presents a level of luminosity smaller than the global threshold level.

3. *(Previously Presented)* The method according to claim 2, wherein, if the verification of step d1) has a negative result, the following steps are carried out:

d12) increasing the exposure time of the sensor and iteratively repeating the previous steps starting from b) until an optimum exposure time is found when, alternatively:

d12a) the value of the exposure time set is the maximum of the range of prefixed values;

d12b) the value of the exposure time set is such that the image presents a level of luminosity smaller global threshold level.

4. *(Previously Presented)* The method according to claim 1, wherein step c) of analyzing the image for detecting its level of luminosity comprises the following steps:

c1) generating a signal representative of the level of luminosity of each pixel of the image acquired by the sensor;

c2) verifying subsequently if the signal generated in correspondence to a current pixel is greater than the global threshold level representative of a condition of overexposure of the analyzed pixel, and:

c21) if such verification has a positive result, accumulating the contribution of the current pixel and iteratively repeating the previous steps starting from c2) for the following pixels;

c22) if such verification has a negative result, releasing the current pixel and iteratively repeating the previous steps starting from c2) for the following pixels;

c3) verifying if the sum of the contributions accumulated is greater than the global threshold level of the image, in such case carrying out step e), otherwise repeating the previous steps starting from c2).

5. *(Previously Presented)* The method according to claim 1, wherein step c) of analyzing the image acquired by the sensor comprises, in turn, the following steps:

ci) analyzing, in a period of time "n", the image acquired by the sensor exposed with an exposure time T_{n-1} set in the time "n-1";

cii) setting, in the time "n", a new exposure time T_n in order to acquire on the sensor an image which is destined to be analyzed in the time "n+1" and proceeding with steps d) and e);

ciii) iteratively repeating the previous steps starting from c1).

6. *(Previously Presented)* The method according to claim 5, wherein the value of the new exposure time T_n set in step cii) is great than the value T_{n-1} previously set.

7. *(Previously Presented)* The method according to claim 1, wherein once the optimum exposure time has been found, the following steps are carried out:

f) defining a second range of values of exposure time comprising Q prefixed values between a new minimum and a new maximum value found among the M values of the first range of values and close to the value of the optimum exposure time previously found;

g) repeating the previous steps starting from a) until a new optimum exposure is found;

h) iteratively repeating the previous steps starting from f), each time defining ranges shorter and shorter which are close to the optimum exposure time previously found.

8. *(Previously Presented)* The method according to claim 1, wherein the analysis of the image acquired by the sensor is carried out on a limited portion of the image itself.

9. *(Previously Presented)* A method of regulating the exposure time of a light sensor, said method comprising the steps of:

a) setting the exposure time of the sensor to a value selected in a first range of values defined between two extremes comprising a minimum value and a maximum value and said first range comprising M prefixed values;

b) acquiring an image of an object onto the sensor, said image comprising a plurality of pixels;

c) analyzing the acquired image for the level of luminosity of said image;

d) comparing the analyzed level of luminosity with a global threshold level representative of a condition of the image where one of the extremes has been exceeded;

e) varying the exposure time of the sensor and iteratively repeating the previous steps until an optimum exposure time equal to an exposure time closest to said exceeded

extreme is found, among the ones set, for which the image presents a level of luminosity without exceeding the global threshold level.

10. *(Currently Amended)* A method for regulating the exposure time of a light sensor, said method comprising the steps of:

a) setting the exposure time of the sensor to a value selected in a first range of values defined between a minimum value and a maximum value and comprising M prefixed values;

b) acquiring an image of an object onto the sensor, said image comprising a plurality of pixels;

c) analyzing the acquired image for the level of luminosity of said image;

d) comparing the level of luminosity with a previously fixed higher global threshold level representative of a condition of underexposure of the image;

e) performing a certain number of iterations wherein in each iteration ~~varying~~ the exposure time of the sensor is varied and ~~iteratively repeating~~ the previous steps are repeated until an optimum exposure time ~~equal to a lower exposure time~~ is found, said optimum exposure time being the lowest among the ones set, for which the image presents a level of luminosity greater than the global threshold level.

11. *(Previously Presented)* The method according to claim 10, wherein step d) of comparison between the detected level of luminosity and the lower global threshold level comprises the following steps:

d1) verifying if the level of luminosity of the acquired image is smaller than the global threshold level, and:

d11) if such verification has a positive result, increasing the exposure time of the sensor and iteratively repeating the previous steps starting from b) until an optimum exposure time is found when, alternatively:

d11a) the value of the exposure time set is the maximum of the range of prefixed values;

d11b) the value of the set exposure time is such that the image presents a level of luminosity greater than the global threshold level.

12. *(Previously Presented)* The method according to claim 11, wherein, if the verification of step d1) has a negative result, the following steps are carried out:

d12) decreasing the exposure time of the sensor and iteratively repeating the previous steps starting from b) until an optimum exposure time is found when, alternatively:

d12a) the value of the exposure time set is the minimum of the range of prefixed values;

d12b) the value of the exposure time set is such that the image presents a level of luminosity greater than the global threshold level.

13. *(Previously Presented)* The method according to claim 10, wherein step c) of analyzing the image for detecting its level of luminosity comprises the following steps:

c1) generating a signal representative of the level of luminosity of each pixel of the image acquired by the sensor;

c2) verifying subsequently if the signal generated in correspondence to a current pixel is smaller than the global threshold level representative of a condition of underexposure of the analyzed pixel, and:

c21) if such verification has a positive result, accumulating the contribution of the current pixel and iteratively repeating the previous steps starting from c2) for the following pixels;

c22) if such verification has a negative result, releasing the current pixel and iteratively repeating the previous steps starting from c2) for the following pixels;

c3) verifying if the sum of the contributions accumulated is smaller than the global threshold level of the image, in such case carrying out step e), otherwise repeating the previous steps starting from c2).

14. *(Previously Presented)* The method according to claim 10, wherein step c) of analyzing the image acquired by the sensor comprises, in turn, the following steps:

ci) analyzing, in a period of time "n", the image acquired by the sensor exposed with an exposure time T_{n-1} set in the time "n-1";

cii) setting, in the time "n", a new exposure time T_n in order to acquire on the sensor an image which is destined to be analyzed in the time "n+1" and proceeding with steps d) and e);

ciii) iteratively repeating the previous steps starting from c1).

15. *(Previously Presented)* The method according to claim 14, wherein the value of the new exposure time T_n set in step cii) is smaller than the value T_{n-1} previously set.

16. *(Previously Presented)* The method according to claim 10, wherein once the optimum exposure time has been found, the following steps are carried out:

f) defining a second range of values of exposure time comprising Q prefixed values between a new minimum and a new maximum value found among the M values of the first range of values and close to the value of the optimum exposure time previously found;

g) repeating the previous steps starting from a) until a new optimum exposure time is found;

h) iteratively repeating the previous steps starting from f), each time defining ranges shorter and shorter which are close to the optimum exposure time previously found.

17. *(Previously Presented)* The method according to claim 10, wherein the analysis of the image acquired by the sensor is carried out on a limited portion of the image itself.

18. *(Previously Presented)* A method of regulating the exposure time of a light sensor, said method comprising the steps of:

a) setting the exposure time of the sensor to a value selected in a first range of values defined between a minimum value and a maximum value and comprising M prefixed values;

b) acquiring an image of an object onto the sensor, said image comprising a plurality of pixels;

c) analyzing the acquired image for the level of luminosity of said image by:

c1) generating a signal representative of the level of luminosity of each pixel of the image acquired by the sensor;

c2) verifying subsequently if the signal generated in correspondence to a current pixel is greater than the global threshold level representative of a condition of overexposure of the analyzed pixel, and:

c21) if such verification has a positive result, accumulating the contribution of the current pixel and iteratively repeating the previous steps starting from c2) for the following pixels;

c22) if such verification has a negative result, releasing the current pixel and iteratively repeating the previous steps starting from c2) for the following pixels;

c3) verifying if the sum of the contributions accumulated is greater than the global threshold level of the image, in such case carrying out step e), otherwise repeating the previous steps starting from c2);

d) comparing the analyzed level of luminosity with a previously fixed higher global threshold level representative of a condition of overexposure of the image, comprising the steps of:

d1) verifying if the level of luminosity of the acquired image is greater than the global threshold level, wherein;

d11) if such verification has a positive result, decreasing the exposure time of the sensor and iteratively repeating the previous steps starting from b) until an optimum exposure time is found when, alternatively;

d11a) the value of the exposure time set is the minimum of the range of prefixed values;

d11b) the value of the set exposure time is such that the image presents a level of luminosity smaller than the global threshold level; and

d12) if such verification has a negative result, increasing the exposure time of the sensor and iteratively repeating the previous steps

starting from b) until an optimum exposure time is found when, alternatively:

d12a) the value of the exposure time set is the maximum of the range of prefixed values;

d12b) the value of the exposure time set is such that the image presents a level of luminosity smaller than the global threshold level; and

e) varying the exposure time of the sensor and iteratively repeating the previous steps until an optimum exposure time equal to a higher exposure time is found, among the ones set, for which the image presents a level of luminosity smaller than the global threshold level.

19. *(Previously Presented)* A method of regulating the exposure time of a light sensor, said method comprising the steps of:

a) setting the exposure time of the sensor to a value selected in a first range of values defined between a minimum value and a maximum value and comprising M prefixed values;

b) acquiring an image of an object onto the sensor, said image comprising a plurality of pixels;

c) analyzing the acquired image for the level of luminosity of said image, comprising the steps of:

c1) generating a signal representative of the level of luminosity of each pixel of the image acquired by the sensor;

c2) verifying subsequently if the signal generated in correspondence to a current pixel is smaller than the global threshold level representative of a condition of underexposure of the analyzed pixel, and:

c21) if such verification has a positive result, accumulating the contribution of the current pixel and iteratively repeating the previous steps starting from c2) for the following pixels;

c22) if such verification has a negative result, releasing the current pixel and iteratively repeating the previous steps starting from c2) for the following pixels;

c3) verifying if the sum of the contributions accumulated is smaller than the global threshold level of the image, in such case carrying out step e), otherwise repeating the previous steps starting from c2);

d) comparing the analyzed level of luminosity with a previously fixed lower global threshold level representative of a condition of underexposure of the image, comprising the steps of:

d1) verifying if the level of luminosity of the acquired image is smaller than the global threshold level, wherein:

d11) if such verification has a positive result, increasing the exposure time of the sensor and iteratively repeating the previous steps starting from b) until an optimum exposure time is found when, alternatively:

d11a) the value of the exposure time set is the maximum of the range of prefixed values;

d11b) the value of the set exposure time is such that the image if the verification of step d1) has a negative result, the following steps are carried out:

d12) if such verification has a negative result, decreasing the exposure time of the sensor and iteratively repeating the previous steps starting from b) until an optimum exposure time is found when, alternatively:

d12a) the value of the exposure time set is the minimum of the range of prefixed values;

d12b) the value of the exposure time set is such that the image presents a level of luminosity greater than the global threshold

level; and

e) varying the exposure time of the sensor and iteratively repeating the previous steps until an optimum exposure time equal to a lower exposure time is found, among the ones set, for which the image presents a level of luminosity greater than the global threshold level.